



QUALITY ASSURANCE/QUALITY CONTROL REPORT

Office of the Chief Engineer (Quality Assurance/Control) Annexure-05,
BBMP Head Office, Hudson circle Bangalore-001,
Ph.no:08022975541, E-mail ID:qualitycontrol.bbmp@gmail.com



QUALITY ASSURANCE REPORT/QUALITY CONTROL REPORT

CE/QA/PR/ 454 /2022-23, DATE: 28/4/23		
Name of Work	:	Package No 06 (Consist of 14 works) Estimated cost 1500.00 Lakhs
Job Code	:	009-23-000003
Bill No. & Amount	:	3 rd & Part Bill.Rs. 96,61,969.00(Including GST)
Name of Agency	:	Sri. M/s. SMLP Asphalts Prop. Sri B B Umesha
Type of Test Performed	:	Rebound Hammer test as per IS13311-(2)-1992 & Bitumen Content and Gradation test as per Table 500.17 MoRTH V Revision
Materials on which Tests Was Performed	:	1. RCC Drain wall (M20) 2. Precast cover slab (M20) 3. Bituminous Concrete (Grade II)
Officers present during inspection	:	1. Smt. Archana AE – Ward No.09 2. Sri C. Shridhar. AEE-Quality Assurance
Project Management Consultants	:	Mecadez Core Technologies Pvt Ltd, Bangalore
Observations	:	➤ NDT (Rebound hammer test) and Bitumen content & Gradation test was conducted by Project Management Consultants representative at random locations in presence of AE (Ward No.11) along AEE QA division. ➤ The Rebound Hammer Test was conducted randomly on RCC Drain wall (M20), Pre cast cover slab (M20) & Kerb Stone (M20) and also Bitumen content & Gradation Test were conducted for BC (Grade-II). The readings and results are recorded by the PMC consultants. ➤ The readings of Rebound Hammer Test and Bitumen Content & Gradation Test results are tabulated and analysis of test results done by PMC is here by furnished. ➤ The location wise test results are reproduced in the tables shown below.
Test Locations	:	Location 1: 20 th Cross Road HMT Layout (opp to # 275) Location 2: 20 th Cross Road HMT Layout (opp to # 879) Location 3: Shiva Temple Road IECHS Layout (opp to #46, opp to # 26, opp to # 49 sai krupa house) Location 4: 3 rd Cross Road (opp to # 47, opp to # 17)

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Table-01: Rebound Hammer Test Results for Location-1

Sl. No.	Landmark	Member	Rebound Hammer Number	Average reading	Compressive Strength (N/mm ²)	Impact Direction
Sample Tested Location at : 20 th Cross Road HMT Layout						
1	opp to # 275	RCC Drain wall (M20)	28	30	22-24	Horizontal
2			32			
3			30			
4			32			
5			28			
6			32			
1		Precast cover slab (M20)	24	25	20-22	Vertical down
2			26			
3			24			
4			26			
5			24			
6			26			

Table-02: Rebound Hammer Test Results for Location-2

Sl. No.	Landmark	Member	Rebound Hammer Number	Average reading	Compressive Strength (N/mm ²)	Impact Direction
Sample Tested Location at 20 th Cross Road HMT Layout						
1	opp to # 879	RCC Drain wall (M20)	30	30	22-24	Horizontal
2			28			
3			30			
4			28			
5			32			
6			32			
1		Precast cover slab (M20)	26	26	22-24	Vertical down
2			26			
3			24			
4			26			
5			26			
6			26			

Table-03: Bitumen Content and gradation Test Results Shiva Temple Road IECHS Layout at random locations BC- (GRADE-II)

Landmark/Location	opp to #46	opp to # 26	opp to # 49 sai krupa house
Description	Trial 1	Trail 2	Trail 3
1. Initial weight of sample (gms) w1	662	669	670
2. final weight of sample after extraction (gms) w2	626	633	634
3. Initial weight of filter paper (gms) w3	2	2	2
4. Final weight of filter paper (gms) w4	3	3	3
5. Weight of fines (gms) w5=(w4-w3)	1	1	1
6. Weight of Bitumen Extracted (gms). w6=w1-w2+w5	37	37	37
7. Bitumen content in % (w6/w1)x100	5.59	5.53	5.52
8. Average		5.54	

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Package No.06 (Consist of 14 works)

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ಪ್ರಾ.ಪಿ
28/04/2023
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Page 2 of 10

SIEVE SIZE mm	Trail 1				Requirement as per MORTH table 500.17
	Weight Retained, gm	Cumulative Weight Retained	%Cumulative Retained	% Passing	
19.00	0	0	0	100	100
13.2	39.57	39.57	6.32	93.68	90-100
9.5	112.57	152.14	24.30	75.70	70-88
4.75	110.6	262.74	41.97	58.03	53-71
2.36	73.65	336.39	53.74	46.26	42-58
1.18	52.46	388.85	62.12	37.88	34-48
0.6	43.54	432.39	69.07	30.93	26-38
0.3	46.33	478.72	76.47	23.53	18-28
0.15	53.62	532.34	85.04	14.96	12-20
0.075	45.2	577.54	92.26	7.74	4-10
SIEVE SIZE mm	Trail 2				Requirement as per MORTH table 500.17
	Weight Retained, gm	Cumulative Weight Retained	%Cumulative Retained	% Passing	
19.00	0	0	0	100	100
13.2	38.35	38.35	6.06	93.94	90-100
9.5	113.0	151.35	23.91	76.09	70-88
4.75	110.6	261.95	41.38	58.62	53-71
2.36	74.22	336.17	53.11	46.89	42-58
1.18	51.52	387.69	61.25	38.75	34-48
0.6	43.54	431.23	68.12	31.88	26-38
0.3	46.33	477.56	75.44	24.56	18-28
0.15	53.62	531.18	83.91	16.09	12-20
0.075	48.24	579.42	91.54	8.46	4-10
SIEVE SIZE mm	Trail 3				Requirement as per MORTH table 500.17
	Weight Retained, gm	Cumulative Weight Retained	%Cumulative Retained	% Passing	
19.00	0	0	0	100	100
13.2	35.15	35.15	5.54	94.46	90-100
9.5	110.5	145.65	22.97	77.03	70-88
4.75	108.34	253.99	40.06	59.94	53-71
2.36	72.6	326.59	51.51	48.49	42-58
1.18	50.72	377.31	59.51	40.49	34-48
0.6	44.65	421.96	66.56	33.44	26-38
0.3	46.33	468.29	73.86	26.14	18-28
0.15	53.62	521.91	82.32	17.68	12-20
0.075	55.35	577.26	91.05	8.95	4-10

Table-04: Bitumen Content and gradation Test Results 3rd Cross Road at random locations
BC- (GRADE-II)

Landmark/Location	opp to # 47	opp to # 17
Description	Trial 1	Trail 2
1. Initial weight of sample (gms) w1	672	661
2. final weight of sample after extraction (gms) w2	636	626
3. Initial weight of filter paper (gms) w3	2	2
4. Final weight of filter paper (gms) w4	4	3
5. Weight of fines (gms) w5=(w4-w3)	2	1
6. Weight of Bitumen Extracted (gms). w6=w1-w2+w5	38	36
7. Bitumen content in % (w6/w1)x100	5.65	5.45
8. Average	5.55	

The Commissioner's Office
in accordance with the
Note:-

SIEVE SIZE Mm	Trail 1				Requirement as per MORTH table 500.17
	Weight Retained, gm	Cumulative Weight Retained	%Cumulative Retained	% Passing	
19.00	0	0	0	100	100
13.2	37.22	37.22	5.85	94.15	90-100
9.5	116.32	153.54	24.14	75.86	70-88
4.75	106.50	260.04	40.89	59.11	53-71
2.36	74.00	334.04	52.52	47.48	42-58
1.18	51.90	385.94	60.68	39.32	34-48
0.6	43.54	429.48	67.53	32.47	26-38
0.3	45.11	474.59	74.62	25.38	18-28
0.15	53.62	528.21	83.05	16.95	12-20
0.075	66.25	594.46	93.47	6.53	4-10
SIEVE SIZE Mm	Trail 2				Requirement as per MORTH table 500.17
	Weight Retained, gm	Cumulative Weight Retained	%Cumulative Retained	% Passing	
19.00	0	0	0	100	100
13.2	32.54	32.54	5.20	94.80	90-100
9.5	106.20	138.74	22.16	77.84	70-88
4.75	111.52	250.26	39.98	60.02	53-71
2.36	73.65	323.91	51.74	48.26	42-58
1.18	50.40	374.31	59.79	40.21	34-48
0.6	44.65	418.96	66.93	33.07	26-38
0.3	46.33	465.29	74.33	25.67	18-28
0.15	53.62	518.91	82.89	17.11	12-20
0.075	68.35	587.26	93.81	6.19	4-10

Conclusion:

The file containing 3rd & part bill has been submitted for the above work to QA department on 18.04.2023 requesting for spot inspection. Engineers of QA/QC division have visited the work spot on 24.04.2023

During the inspection, it was understood that the items found in the bill, have been executed by the contractor from the documents provided by PMC team and from the file submitted.

PMC team was instructed to assess the strength of concrete used RCC Drain wall (M20), Precast cover slab (M20) by Rebound Hammer Test and also Gradation & Bitumen content test for BC (Grade-II) on Asphalted road. The Rebound hammer test and Bitumen Content and Gradation Tests were conducted by PMC in presence of engineer in charge of work.

From the test results furnished by PMC consultants, it is concluded that the results of the samples collected are in accordance with the standards/ specifications mention in the IRC codes. However, the results submitted by the PMC have been reproduced here with for further needful action. The results checked by QA/QC relates only for item tested in the particular location randomly.

Further, QA/QC directs the PMC and Engineer in-charge of the work that all materials used for the work shall be inspected, tested and accepted as per the relevant specifications before incorporation in the work. The frequencies and methods of sampling and testing materials, including those required for definite purpose and not covered by MORTH specifications shall be in accordance to the relevant IRC or BIS or AASHTO/ASTM/BS standards in order of priority.

All materials or work not conforming to the requirements of the specifications shall be considered unacceptable and rejected. The unacceptable materials or works that are rejected shall be immediately removed unless the defects are corrected and approved by the engineer in-charge of work.

Package No 06 (Consist of 14 works)

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ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ
24/04/2023
Page 4 of 10

Note: -

Safety precautions shall be taken at work spot to prevent any mishap, injuries or loss of life to general public and construction workers according to guidelines laid down in code of practices.

Engineer in charge of work shall display details of work, work code, cost of project, start and completion date, and information of Engineer in charge of work with contact numbers at work spot.

Engineer in charge of work and Agency shall ensure that if any damages or defects occur pertaining to the executed work within the Defect Liability period (DLP), The same shall be rectified immediately on top priority without fail.

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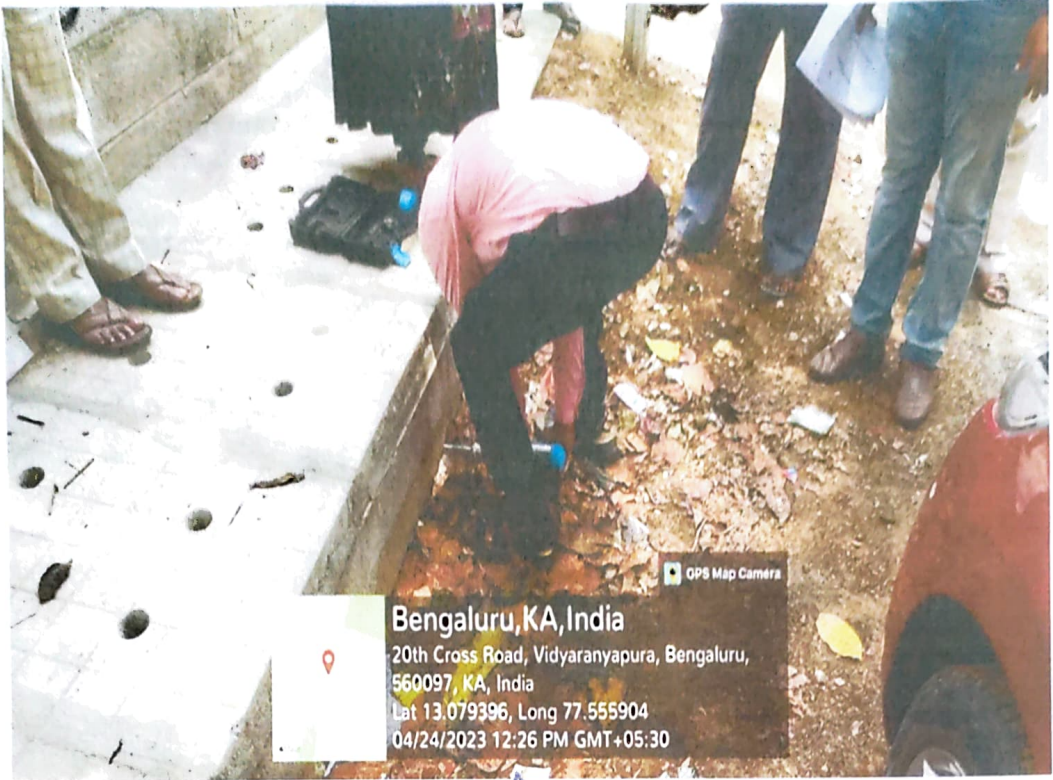
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GPS Map Camera
Bengaluru,KA,India
20th Cross Road, Vidyananyapura, Bengaluru,
560097, KA, India
Lat 13.079396, Long 77.555904
04/24/2023 12:26 PM GMT+05:30



GPS Map Camera
Bengaluru,KA,India
20th Cross Road, Vidyananyapura, Bengaluru,
560097, KA, India
Lat 13.079411, Long 77.555900
04/24/2023 12:27 PM GMT+05:30

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Page 6 of 10
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Page No 0600 consists of 14 works
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ಮುಖ್ಯ ಅಭಿಯಂತರರು
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ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಳಿಕೆ
Page of 10
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಳಿಕೆ



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28/4/23

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